

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
6 November 2003 (06.11.2003)

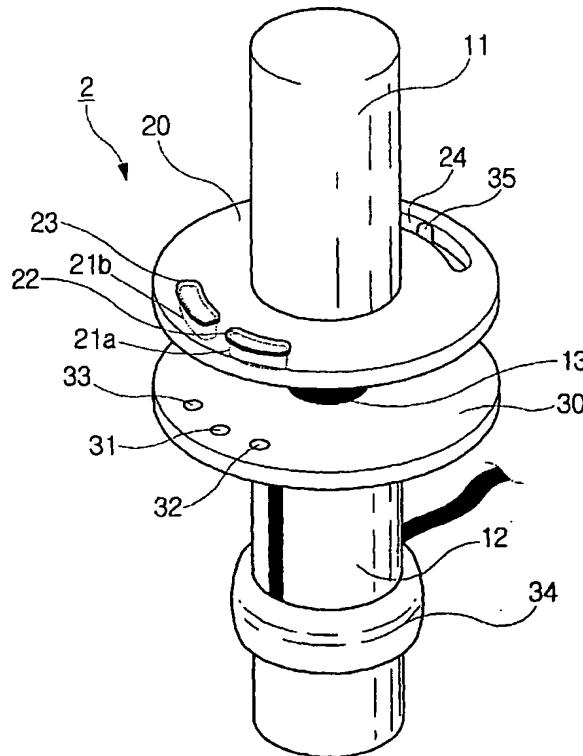
PCT

(10) International Publication Number
WO 03/091086 A1

- (51) International Patent Classification⁷: **B62D 6/10**
- (21) International Application Number: **PCT/KR03/00850**
- (22) International Filing Date: 25 April 2003 (25.04.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10-2002-0022965 26 April 2002 (26.04.2002) KR
- (71) Applicant (*for all designated States except US*): MECCA TECH CO., LTD [KR/KR]; #313 Inje Techno Bldg., 607 Obang-dong, Gimhae-si, Gyeongnam 621-749 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): HONG, Sun-Young [KR/KR]; 456-15 Hoiwon-dong, Masan-si, Gyeongnam
- 630-040 (KR). BOO, Kwang-Suck [KR/KR]; 109-2403, Yurim Asiad Apt., Geoje-dong, Younje-gu, Busan 611-074 (KR).
- (74) Agent: YOON, Eui-Seoup; Yoones & Co, 3F Namdo Bldg., 823-24 Yoksam-dong, Gangnam-gu, Seoul 135-080 (KR).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: TORQUE DETECTOR WITH REFLECTOR FOR ELECTRIC POWER STEERING SYSTEM



(57) Abstract: The present invention relates to a steering torque detecting apparatus of an electric power steering system which is capable of assisting a steering operation by accurately detecting a steering torque b providing a light incident groove having a reflections surface. In a steering system which includes an input shaft connected with a steering handle, an output shaft which is connected with vehicle wheels, an elastic member which connects the input shaft and output shaft to be rotatable in different directions at a certain angle, and a steering torque detector which is installed between the input shaft and the output shaft for thereby detecting a steering torque, there is provided a steering torque detector of a steering system which includes left and right reflections surfaces formed in one of the input shaft and output shaft, a light emitting element which is installed in a shaft corresponding to a shaft in which the reflection surface is formed, and left and right light receiving elements which are installed in left and right sides of the light emitting element and receive light of the light emitting element in accordance with a relative rotation of the input shaft and output shaft.

WO 03/091086 A1